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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/866,352	05/25/2001	Yasuharu Katsuno	JP9-2000-0044	4831

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Ronald L Drumheller, Esq.
94 Teakettle Spout Road
Mahopac, NY 10541

EXAMINER	
BOOKER, KELVIN E	
ART UNIT	**PAPER NUMBER**
2121	

DATE MAILED: 07/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/866,352	KATSUNO ET AL.	
	Examiner	Art Unit	
	Kelvin E Booker	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 May 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☒ Claim(s) *1-14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *Detailed Office Action*.

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

2. The following title is suggested: "A System and Method for Transmitting Data Between Terminals Based Upon Progress Vectors".

Claim Objections

3. **Claims 1-14** are objected to because of the following informalities:

The term "*information*" in **claims 1-14** is used by the claims to represent "*data*", while in the art, the term *information* is directed to interpretation and/or environmental parameters bestowed upon data (e.g., 5844531153 could be a number or a phone number, only associative data provides this interpretation). Therefore as disclosed, the applicant appears to focus on the transfer of data, *not* information, for incurring the calculations in determining vector progress. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 15-19** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "*information*" in **claim 15** is used by the claim to mean "*data*", while the accepted definition is "meaning bestowed upon data based upon a given situation, environment and/or interpretation". The term is indefinite because the specification does not clearly redefine the term.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. **Claim 20** is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. **Claim 20** is directed at (1) a program on a disk and/or (2) a program. Abstract ideas (see Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759) or the mere manipulation of abstract ideas (see Schrader, 22 F.3d at 292-93, 30 USPQ2d at 1457-58) are not patentable.

As disclosed, independent **claim 20** focuses on nonfunctional descriptive material, which is inclusive of the mere arrangement of data without engaging functionality when employed as a

computer component. Claiming nonfunctional descriptive material merely recorded on a computer-readable medium is deemed non-statutory because it fails to present functionality to facilitate practical application requirements (see MPEP 2106(IV)(B)(1)).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. **Claims 1-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Myers et al., U.S. Patent No. 6,618,594 [hereafter Myers], in view of Willassen, "Positioning a Mobile Station" [hereafter Willassen].

As per claims 1, 2 and 5, Myers teaches of an information and data transmission system and method, whereby information from a source terminal, one of multiple terminals, is relayed and forwarded by another terminal, comprising the steps of: (1) calculating an information progress vector that represents the progress of information (see figure 1, elements 12(a-c), 14, 16, 18 and 22; and column 2, lines 57-67: "Given the current position...the user terminal"); (2) calculating a terminal progress vector that represents the travel performed by a specific terminal among said multiple terminals (see figure 1, elements 12(a-c), 14, 16 and 18; and column 2, line 57 through column 3, line 26: "Given the current position...a GPS receiver"); and (3) calculating the position of a user via vector data, and using this data to facilitate the transfer of

terminal accessibility within the system, providing the signal strength meets a predetermined value which constitutes the on/off switching status between terminals [e.g., true (e.g., digital '1') or false (e.g., digital 0)] before halting and/or transferring transmission (see column 3, lines 17-37).

Myers teaches of calculating the position of a user via latitudinal and longitudinal vector data, combined with signal triangulation methods in order to facilitate the transfer of terminal accessibility within the system (see column 2, line 53 through column 3, line 37), but fails to explicitly disclose a method whereby the cosine [e.g., cos θ] of progress vectors is used in determining transmission.

Willassen teaches of the transitioning of a mobile system which employs a method for determining distances and positions of progress vectors, wherein the cosine of an angle formed by the vectors is calculated and used in establishing the state of a device (see pages 11-13: calculating vector positions and angles to determine changes in position).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention, to combine Myers' method for calculating the position of a user through the use of latitudinal and longitudinal vector data and signal triangulation, along with the facilitation of changes in service terminals based upon established pre-determined signal strengths, combined with Willassen's method for calculating and analyzing the change of the cosine of angles [e.g., cos θ], in order to make possible the transfer of terminal services within the system, based upon the change of calculated angles as they relate to corresponding progress vectors.

As per claim 3, Myers teaches of a system and method wherein said information progress vector is calculated by the arbitrary use of two or more kinds of positional information

selected from among positional information for said transmission source terminal included in said information, positional information for other terminals, excluding said transmission source terminal, where information is relayed, and positional information obtained by said specific terminal, wherein said terminal progress vector is calculated by using current and past positional information obtained by said specific terminal (see column 2, lines 64 through column 3, lines 25).

As per claim 4, Myers teaches of a system and method wherein said positional information is obtained by a first method whereby positional information for a base station is obtained by a terminal that is controlled by said base station, and is used as :said positional information of said terminal, or a second method for using a GPS (Global Positioning System) (see column 2, lines 46-56: "The system...the user terminal").

As per claim 6, Myers teaches of a system and method wherein density information for a terminal is obtained, and when the relationship ($s < |x - d|$)is established for a distance (s) between said specific terminal and a terminal that transmits information to said specific terminal, a communication limit distance (x) that is reached by a radio signal sent by said terminal, and an average inter-terminal distance (d), the transmission of said information is inhibited (see column 4, lines 7-19: zone assignment and parameters governing terminal transfers).

As per claim 7, Myers teaches of a system and method further comprising the steps of:

A. requesting the transmission of positional information by other terminals (see column 4, lines 20-26);

B. receiving said positional information from said other terminals (see column 4, lines 27-45); and

C. calculating an inter-terminal distance by using said positional information of said specific terminal and said positional information for said other terminals, and calculating the average of said inter-terminal distances and obtaining said distance (d) (see column 2, line 57 through column 3, line 26).

As per claims 8-14, the same limitations are subjected to in **claims 1-7,** respectively, therefore the same rejections apply (see claims 1-7 above).

As per claims 15-19, the same limitations are subjected to in claims **1-3, 5 and 6,** respectively, therefore the same rejections apply (see claims 1-3, 5 and 6 above).

As per claim 20, the same limitations are subjected to in **claim 1,** therefore the same rejections apply (see claim 1 above).

Conclusion

10. The following prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

A. Zibell, U.S. Patent No. 6,061,021;

B. Batzer et al., U.S. Patent No. 6,188,720;

C. Mikkola et al., U.S. Patent No. 6,529,143;

D. Dogan et al., U.S. Patent No. 6,697,633;

E. Kuwahara et al., U.S. Patent No. 6,694,142;

F. Counselman, III, U.S. Patent No. 4,809,005;

G. Victor, U.S. Patent No. 5,920,284;

H. Kremm et al., U.S. Patent No. 5,943,606;

I. Ghazvinian et al., U.S. Patent No. 5,936,570;

J. Levanon, U.S. Patent No. 6,078,284;

K. Levanon, U.S. Patent No. 6,107,959;

L. Ghazvinian et al., U.S. Patent No.6,127,967;

M. Ishihara et al., U.S. Patent No. 6,178,377;

N. Bloebaum, U.S. Patent No. 6,188,351;

O. Levanon et al., U.S. Patent No. 6,327,534;

P. Imeilinski et al., "GPS-Based Geographic Addressing, Routing and Resource Discovery";

Q. Ramanathan et al., "A Survey of Routing Techniques for Mobile Communications Networks";

R. Katsuno et al., "Magical Device: A Small Device That Makes It Easy to Build Real-World Navigation Systems";

S. Saltenis et al., "Indexing the Positions of Continuously Moving Objects";

T. Willassen, "Positioning a Mobile Station";

U. Bahl et al., "RADAR: An In-Building RF-Based User Location and Tracking System;

V. Birchler, "E911 Phase 2 Location Solution Landscape; and

W. Bahl et al., "User Location and Tracking in an In-Building Radio Network".

11. An inquiry concerning this communication or earlier communications from the examiner should be directed to Kelvin Booker whose telephone number is (703) 308-4088. The examiner can normally be reached on Monday-Friday from 7:00 AM-5:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight, can be reached on (703) 308-3179. The fax number for the organization where this application or proceeding is assigned is (703) 872-9306.

An inquiry of a general nature or relating to the status of this application proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Anthony Knight
Supervisory Patent Examiner
Group 3600

K.E.B.

Art Unit 2121

July 8, 2004